

1 What is claimed is:

1 1. A method of reducing photoelectric device leakage
2 current caused by residual metal ions in conjugated polymer,
3 comprising the steps of:

4 (i) providing a conjugated polymer material or a
5 precursor thereof for a photoelectric device;

6 (ii) forming a solution containing the conjugated
7 polymer material or the precursor thereof, a
8 chelating agent in an amount of from 0.01 to 50 wt%
9 based on the weight of the conjugated polymer
10 material or the precursor thereof, and a solvent,
11 wherein the residual metal ions in the conjugated
12 polymer material or the precursor thereof are
13 chelated by the chelating agent; and

14 (iii) forming the solution obtained from step (ii) into
15 a film for the photoelectric device.

1 2. The method as claimed in claim 1, wherein the
2 conjugated polymer material or the precursor thereof is an
3 organic light emitting polymer material, an electron
4 transferring polymer material, or a hole transferring polymer
5 material.

1 3. The method as claimed in claim 2, wherein the
2 conjugated polymer material is selected from the group
3 consisting of polyphenylene vinylene, polyfluorene,
4 derivatives thereof, precursors thereof, and combinations
5 thereof.

1 4. The method as claimed in claim 3, wherein the
2 conjugated polymer material is poly(2,3-dibutoxy-1,4-

3 phenylene vinylene), poly(9,9-dioctylfluorene), or a
4 precursor thereof.

1 5. The method as claimed in claim 1, wherein the
2 chelating agent is selected from the group consisting of
3 aminophenols, sulfur compounds, crown ethers, salicylimines,
4 and combinations thereof.

1 6. The method as claimed in claim 5, wherein the
2 chelating agent is selected from the group consisting of 8-
3 hydroxyquinoline, oxinesulfonic acid, tetraethylthiuram
4 disulfide, tetramethylthiuram disulfide, dithiol, 2,3-
5 dimercaptopropanol, thioglycolic acid, potassium ethyl
6 xanthate, sodium diethyldithiocarbamate, dithizone, diethyl
7 dithiophosphoric acid, thiourea, 12-crown-4, 15-crown-5, 18-
8 crown-6, dibenzo-18-crown-6, N,N'-
9 bis(salicylidene)ethylenediamine, and combinations thereof.

1 7. The method as claimed in claim 6, wherein the
2 chelating agent is 18-crown-6, 8-hydroxyquinoline,
3 tetraethylthiuram disulfide, or N,N'-
4 bis(salicylidene)ethylenediamine,

1 8. The method as claimed in claim 1, wherein the film is
2 used in organic light emitting diode devices, organic solar
3 cell devices, organic transistor devices, organic laser
4 devices, organic memory devices, organic resistor devices,
5 organic capacitor devices, or organic inductor devices.

1 9. A conjugated polymer composition, comprising at least
2 the following:

3 (a) a conjugated polymer or a precursor thereof, and

4 (b) a chelating agent in an amount from 0.01 to 50 wt%
5 based on the weight of the conjugated polymer
6 material or the precursor thereof.

1 10. The conjugated polymer composition as claimed in
2 claim 9, wherein the conjugated polymer or a precursor
3 thereof is an organic light emitting polymer, an electron
4 transferring polymer, or a hole transferring polymer.

1 11. The conjugated polymer composition as claimed in
2 claim 10, wherein the conjugated polymer is selected from the
3 group consisting of polyphenylene vinylene, polyfluorene,
4 derivatives thereof, precursors thereof, and combinations
5 thereof.

1 12. The conjugated polymer composition as claimed in
2 claim 3, wherein the conjugated polymer is poly(2,3-dibutoxy-
3 1,4-phenylene vinylene), poly(9,9-dioctylfluorene), or a
4 precursor thereof.

1 13. The conjugated polymer composition as claimed in
2 claim 9, wherein the chelating agent is selected from the
3 group consisting of aminophenols, sulfur compounds, crown
4 ethers, salicylimines, and combinations thereof.

1 14. The conjugated polymer composition as claimed in
2 claim 13, wherein the chelating agent is selected from the
3 group consisting of 8-hydroxyquinoline, oxinesulfonic acid,
4 tetraethylthiuram disulfide, tetramethylthiuram disulfide,
5 dithiol, 2,3-dimercaptopropanol, thioglycolic acid, potassium
6 ethyl xanthate, sodium diethyldithiocarbamate, dithizone,
7 diethyl dithiophosphoric acid, thiourea, 12-crown-4, 15-

8 crown-5, 18-crown-6, dibenzo-18-crown-6, N,N'-
9 bis(salicylidene)ethylenediamine, and combinations thereof.

1 15. The conjugated polymer composition as claimed in
2 claim 14, wherein the chelating agent is 18-crown-6, 8-
3 hydroxyquinoline, tetraethylthiuram disulfide, or N,N'-
4 bis(salicylidene)ethylenediamine.

1 16. The conjugated polymer composition as claimed in
2 claim 9, which is used in organic light emitting diode
3 devices, organic solar cell devices, organic transistor
4 devices, organic laser devices, organic memory devices,
5 organic resistor devices, organic capacitor devices, or
6 organic inductor devices.

1 17. The conjugated polymer composition as claimed in
2 claim 9, further comprising a solvent.